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BIOGRAPHICAL SKETCH

OF THE LATE

James G. Cooper, M. D.

— OF —

HAYWARD, ALAMEDA CO.,

CALIFORNIA.

—
DECEMBER, 1902.



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DR. JAMES G. COOPER.

Born June 19, 1830. Died July 19, 1902.

FROM A PHOTO TAKEN IN 1865.

Dr. JAMES G. COOPER.

A SKETCH

[By W. O. Emerson, President of the Cooper Ornithological Club.]

IT is proper, and in accordance with the wish of the Club, that the initial number of the BULLETIN should contain a brief sketch of the life of him, in whose honor our Club is named,—Dr. James G. Cooper.

The fact that Dr. Cooper, though very feeble, is yet alive, precludes us from entering upon any detailed view of his private life, even though it be that phase with which his friends most delight. We must, therefore, confine ourselves to the scientific aspect of his life, as it is in this relation that he is best known to thousands who have never met him, and who will be pained to learn that it is almost impossible for him to receive visitors, as it is difficult and painful for him to speak.

When it became necessary for us to visit him to verify certain portions of this sketch, we noticed his evident pleasure when he learned that the Club intended to publish its own BULLETIN, and he expressed the wish to do all that he could to further its interests. To us this meeting was at once a promise and a benediction. For many years he had been to us a friend and a guide, and necessarily our mind reverted to the time when we learned of bird-life at his feet. As we looked on his kindly face and listened to the almost inarticulate words, in memory we traveled backward to

the time of our first lesson in bird-life; he sitting on a rock in the shadow of the trees, and the student watching the birds which he noted as they flew about us or jumped from stone to stone, making the air vibrate with their music.

Eighteen years ago! What a vista of time is here unrolled. What changes this period has wrought, yet in memory he is again giving his first field lesson, taking the Rock Wren for an object study as it sits on a huge blue-gray rock singing to us its song of welcome. Here he talked to us of Nature in all of her varied forms; told of the birds, their songs, their flights, plumage and their homelife; of their loves and hates, joys and sorrows! All of this was told in common language, without scientific nomenclature, and thus we saw Nature and her works through the eyes of one who loved and had long questioned and learned many of her secrets, until the setting sun found us yet worshipping in Nature's temple, and the student gaining his first glimpse into that grand arcana. This was our teacher's manner; thus he gathered around him the young ornithologists and in the field taught them the lessons of bird-life, and it was from the incentives of these field studies that our Club was formed, and in his honor named, and at the Club meeting held December 5, 1896, he was by unanimous vote placed on our roll as an Honorary Life Member.

The Secretary of the Club, Mr. C. Barlow, fully ex-

pressed the sentiments of all when, in advising Dr. Cooper of the action, he wrote: "The Club which was named in your honor was organized June 22, 1893. *

* As an organization of comparatively young workers, we all feel indebted to yourself and the few remaining veteran ornithologists for the excellent and valuable material which you have prepared in the years past."

James G. Cooper was born June 19, 1830, in New York, being the eldest of a family of six children. In the spring of 1837, his father, William Cooper, moved to New Jersey and settled at Slongha, near Hoboken, where James commenced his school life, but it was not until he was ten years of age that his school life really began, as prior to this time he was subject to many and severe spells of illness. As he was obliged to walk a mile or more through the fields, he took many of the side paths for the purpose of hunting birds, shells, snakes and other objects of natural history, thus early showing the tendency which has marked his later years. During this period and the succeeding years, he was largely indebted to his father for his education and real preparation for his after career. It may be proper that we devote a few words to the father who exerted so great an influence in the son.

His father, William Cooper, was born in the year 1798, and was the son of James Cooper, an English merchant, who, coming to New York shortly after the

Revolutionary War, accumulated a comfortable fortune, and died in 1801. William gave up all ideas of business and devoted his life to the study of Nature, inheriting these tastes from his mother, who was Miss Frances Graham. At the age of nineteen William Cooper united with a number of others and established the Lyceum of Natural History of New York, which became the school of many of our noted scientists. Senator Samuel L. Mitchell, M. D., was the first President, who with Cooper laid the foundation of its magnificent museum. Nathaniel Paulding, the poet, was its first Secretary, and William Cooper was Secretary in 1818 when it was incorporated. For many years Dr. John Torrey, who was the educator of many of our noted botanists, was the curator of the museum, and the intimate personal friend of Mr. Cooper, and to him Dr. Torrey dedicated his first real botanical work, *The Botany of the Northern and Middle States*. At this time Prof. Eaton was, under the direction of Courtland Van Rensselaer, making geological surveys. These old records of the Lyceum, which are before us as we write, vividly recall the early struggling days of science in the United States. What a list of scientific workers, do these old files of proceedings recall. Mark the time, 1818 to 1854.

In 1821 William Cooper departed for Europe in order to perfect himself in zoology, and was the first American member of the Zoological Society of London. He attended the lectures of Cuvier and those master minds of the

Jardin des Plantes, and on his return to the United States took up the study of Palæontology, being among the first in our country to engage in this science. He became the warm friend of Schoolcraft who afterwards made for himself a name as a historian of the Indian races. William Cooper was the friend, correspondent and co-laborer of Lucien Bonaparte, and edited the last two volumes of Bonaparte's works, who showed his appreciation of the assistance by dedicating to Cooper one of the finest of his new species, *Falco cooperi*, the type specimen of which was shot by Cooper in Hudson County, N. Y., and another type specimen, *Ætodormas cooperi*, was also taken by him, and it is unique in the fact that no second specimen has been secured. The result of William Cooper's ornithological work is largely incorporated in Bonaparte's works. He was the friend of Audubon, and Nuttall, and gave them the use of his specimens and notes, and assisted them in their works. He died April 20, 1864, and at this time, he and his life long friend, John Torrey, were the only surviving members of the original Lyceum, Mr. Cooper having been a member forty-seven years.

Nurtured by such influences, his education superintended by such a father, his earliest memory being of the conversations of such men, it would be impossible for the subject of our sketch to be other than that which he has been,—an authority in his own field of study. In 1851 James G. Cooper graduated from the College of Physicians and Surgeons, New York, and henceforth will be

known to us as Dr. Cooper. The succeeding two years were spent in the City hospitals, when at the beginning of the year 1853 we find him taking the initiatory step that to him was the turning point of his life; a period in which hope and ambition as regards certain directions became ruling factors and decided his course.

We may be pardoned for dwelling a moment on a period that strengthened his tendencies, and decided the course of his ambitious future. At this time the Government had determined to take some action in regard to a trans-continental railroad, and was making arrangements for a preliminary survey for a route between St. Paul and Puget Sound, and, on April 27, 1853, Dr. Cooper signed a contract with Gov. I. I. Stevens, (who had lately been appointed Governor of the Territory of Washington, and placed in charge of the survey) as one of the physicians to the survey. This appointment meant more to him than the mere \$70.00 a month that he received, as it brought him into direct contact with those bright and able minds whose after acts became a large portion of the history of our country, and of science. What a galaxy of bright names have been clustered around this survey. These were the men with whom our friend lived, thought and acted.

To the Eastern division Dr. Suckley was assigned, while Dr. Cooper was assigned to the Western under the direct superintendence of Brevet Captain Geo. B. McClellan of the Engineer Corps, to whom he reported June

14, 1853.

At this point we must digress to note the names here associated, which in a few years were to stand as the supporters of principles whose final disposition was made the basis of our Civil War. Jefferson C. Davis wrote and issued Dr. Cooper's instructions; Geo. B. McClellan was his immediate commander; U. S. Grant was the Regimental Quartermaster that issued his supplies; A. J. Donelson was in command of the escort and Hardie in command of the Division of the Pacific. As we read the orders and documents signed by these men, what memories are awakened!

Connected with this survey was Mullen, who afterwards became the roadmaker. There were John Torrey, Asa Gray, F. V. Hayden, Gibbs, Meek, Baird, Le Conte, Lesqueraux, Warren, Suckley and others who were collaborators with Dr. Cooper, and who have written their names on the scroll of the world of science. From June 14, 1853, to April 1, 1854, Dr. Cooper was engaged in making botanical and zoological collections and meteorological observations. This latter work was the peculiar duty that was always assigned to the surgeons of the army, but until this time it had not been productive of any tangible results, although Blodgett had attempted to formulate some of the laws regarding climatic conditions, and was busy in reducing the accumulated observations, and Redfield had propounded his theory of storms. While engaged in the study of the forest growth of the

Northwest, Dr. Cooper's attention was directly called to the correspondence between the forest distribution and climatic influences, which largely determined the environment. The result of this study was communicated to the public through the Smithsonian Institute, and was the first systematic statement regarding the forest growth that was issued by the Government.

While Dr. Cooper can not be regarded as a professional meteorologist, yet the reductions of the observations of this survey are models, and these observations had a profound influence on his future work. The survey was disbanded April 1, 1854, and McClellan ordered our friend to report to Gov. Stevens at Fort Vancouver. His specimens were transmitted to Prof. Baird at Washington, to which place he soon went for the purpose of preparing his report. Returning to the coast he spent the entire year of 1855 in collecting specimens of natural history, and it was at this time that his attention was so strongly fixed upon that line of thought in which probably he is best known—that of Conchology. His report on the ornithology of the survey has become a model, and is marked by deep, searching and comprehensive observations. Dr. Suckley was a joint author with Cooper, and reported on a separate section.

Late in the fall of 1855 Dr. Cooper went up the coast to Gray's Harbor, joining the Indian Treaty Commission under Gov. Stevens, intending to accompany the Governor to the Blackfoot Council at Fort Benton, but in this

he was disappointed. In the meantime he made a voyage to the Straits of Fuca and spent a month on Whitby's Island, collecting specimens, returning to Shoalwater Bay in July where he remained until Oct. 4, when he sailed in the Coast Survey steamer *Active*, by invitation of Capt. Allen, to San Francisco. He spent six weeks in collecting specimens in the Santa Clara Valley, then proceeding southward to Panama he collected shells for his father, whose last scientific writing was a report on West Coast shells, *Pacific R. R. Report*. This large collection passed into the hands of the Chicago Academy of Sciences and was destroyed in the great fire. Dr. Suckley was not with him at this time, he having returned to the East. Altogether Dr. Cooper spent two years and three months in Washington Territory, and this was really his school of preparation. From April 1, 1854, until 1857, all of the work that he did was by his own private enterprise and in obedience to his love for science, and it is at this point that we bid farewell to the botanist and welcome the ornithologist and conchologist.

On April 22, 1857, Dr. Cooper was by the Secretary of the Interior, appointed Surgeon to the Wagon Road from Fort Kearney to the South Pass and Honey Lake. However, when the expedition reached the Rocky Mountains, it became necessary to disband it, and the Doctor went on a collecting trip through the Mojave desert. The results of this trip are contained in his various reports on the fauna of Montana, Wyoming and the Mojave, and

are scattered through his later writings. On April 16, 1860, Gen. W. S. Scott issued special order No. 47, directing Dr. J. G. Cooper as Contract Surgeon, to report at New York, and to proceed thence to Fort Columbus, Department of Oregon, accompanying a detachment of recruits. This duty terminated Oct. 19, 1860, but his contract was continued to Dec. 1 of that year. Again as a student we find him collecting along the coast from San Francisco to San Diego. From now henceforward we view the energetic, thoughtful scientific mind. From 1861 to 1874 was one continuous series of field observations and studies, the results of which are embraced in his numerous publications until the year 1890. This period will again be examined when we speak of his publications.

The gigantic struggle of the Civil War found him a student and an active worker in the field of science. Watching this struggle, listening to the roll-calls of the dead, sick and wounded, he again sought service in the army, and on May 24, 1864, Gov. F. F. Law commissioned him as Assistant Surgeon, 2d Cavalry, California Volunteers, and he served with this regiment until its muster out. Even during this period he did not relinquish his scientific work, which was that of identification of individual specimens, of reference, and in publishing his observations. He was now a systematist and not a collector. January 9, 1866, he was married to Miss Rosa M. Wells at Oakland, California.

It is not our purpose to draw aside the curtain that separates his scientific and public life from the sanctity of his home-life. At present we feel that we have no right to enter the home and to paint the picture of the peace and happiness of that home circle, where, surrounded by wife and children, he, in perfect security and the loving trust of a well spent life, calmly awaits the summons that shall bid him move to another home. Sometime it may be our duty and pleasure to draw the picture of his home life and to write more fully of his scientific life, but the time is not yet come, and it may be that other and better pens than ours may perform this duty, but none would bring to its accomplishment more loyal labor. Until 1871 Dr. Cooper was in the active practice of his profession, when his health failing, he moved to Ventura County, California, and remained there engaged in collecting until in 1875 he moved to Hayward, California, where he now resides.

Thus far we have carried a brief, running itinerary, as it were, of his scientific life, recounting his movements until the time that he moved to Hayward, at which it is our purpose to leave this view of his life, and take up the purely scientific portion and his publications. In 1858 Dr. Cooper was made a member of the New York Lyceum, now New York Academy of Sciences. Although not one of the charter members of the California Academy of Sciences, he is one of its early members, and until failing health prevented, one of its earnest and active work-

ers, holding for several years the office of Vice President and one term as Second Vice President. During the time of the auxiliary clubs he was the President of the Zoological Club. Much of his active work in connection with the Academy has been in palæontology, and he was for some time curator of this section. A large number of his works were first published in the Proceedings of the Academy. He did considerable work on the Geological Survey of California under Whitney, a portion of this being in pure geology and a portion in palæontology. He compiled the catalogue of California Fossils for the Mining Bureau.

Our first impulse was to give a full catalogue of his publications, but having arranged a full list of titles, we have thought it would meet the requirements of this sketch in a better manner if a synopsis by subjects were given in lieu of the catalogue: On Conchology, 43 papers, Botany, 6 papers, Ornithology, 12 papers, Mammals, 8 papers, other scientific subjects, 7 papers. Total, 76. While his scientific work has been a varied one, it is his ornithological work that particularly interests our Club, and it may be inappropriate for the BULLETIN to present any other phase, yet before examining his ornithological contributions we cannot refrain from mentioning other work for the reason that it bears so directly on certain phases of his purely ornithological work. Necessarily we must omit any reference to conchology and palæontology, as the scope of the BULLETIN will not admit of such dis-

cussion. Nor is it our present purpose to critically examine his ornithological writings, but rather to draw attention to the fact that Dr. Cooper is one of our best ornithologists, because, to many, the conchologist has overshadowed the ornithologist in his work. We wish now to refer directly to the work that in reality was the result of his meteorological observations and directed his attention to the question of the geographical distribution of plants and animals. This subject has been distinctive of all of his later work, and if we are not in error, he was the first to note the particular laws governing the environment of bird-life.

At the time he presented his essay on the geographical distribution of plants, no one in the United States, and only De Candolle, Richard and Humboldt in Europe, had critically examined this subject, and Michaux, on the basis of the forest growth of a portion of the United States had noted it. While Pursh, Bartram, Nuttall, Barton and Torrey had preceded him, they are silent on the laws or conditions governing the distribution, and while Douglas and Eschscholtz preceded him on the West Coast and noted cases of geographical distribution, they were from the very paucity of systematic observations unable to formulate any scientific generalizations. Then we regard this essay as the first systematic presentation of this subject in the United States. From the plants he carried this question into the life history of the *Molluscæ*, and thence he laid the foundation of his generalizations re-

garding the distribution of bird-life. There can be no doubt that this question of geographical distribution has marked and modified our views of the life history of birds, and from the mere descriptive technology of ornithology, we have opened a new and varied field of ornithological study. In this particular field he has been a pioneer, and it is a portion of the special work of this Club. To the scientist the work of Dr. Cooper is of special value, and this is acknowledged and emphasized by Prof. Baird, who says: "By far the most valuable contribution to the biography of American birds that has appeared since the time of Audubon, is that written by Dr. J. G. Cooper in the Geological Survey of California,"—(BAIRD *North American Land Birds*. Preface page 1.)

While the number of his publications on conchology exceeds those on ornithology, in the latter they have taken the form of finished works or monographs, which have such a value as attaches to the works of Audubon, Baird, Wilson and Béndire. During his work on the Pacific Coast Dr. Cooper discovered and established ten forms, which will be made the subject of a paper in our next issue.

Lewis' and Clarke's explorations to the head waters of the Missouri River made known to us that vast expanse of territory known as the Northwest and Audubon, Nuttall and Townsend were the first to describe and make known its zoology. The exploration of Maj. Long in 1870, of which Dr. Edwin James was the scientist,

reached to the south and west of the territory covered by Lewis and Clark, but did not to any great extent enlarge our knowledge of its zoology, as James was a better botanist than zoologist. To a certain extent the same may be remarked respecting the explorations of Fremont. The botany of these several surveys and explorations was particularly elaborated by Torrey, Gray, James and Eaton, while the zoology was not so thoroughly elaborated.

In 1831 Sir John Richardson published the results of his observations of a portion of the territory covered by the Hudson Bay Company, but none of these, however, explored Colorado, Arizona, Nevada and California, although the work of Eschscholtz covered a portion, and it was not until the Geological Survey of California under Whitney that this territory really became known to science. Thus this survey becomes a starting point and a scientific epoch, as it were. To this survey Dr. Cooper was assigned as zoologist and by mutual consent between he and Whitney, the notes and specimens were to be placed in the hands of Prof. Baird for elaboration at the Smithsonian Institute, and to be finally published as a portion of the work on *The Land and Water Birds of North America* by Baird, Brewer and Ridgway. This arrangement, however, was not practically carried out, and a large portion of this work was published by Whitney as a part of the California Reports. A portion of the bird skins were deposited at the State University at

Berkeley.

Thus it was the zoological work of Dr. Cooper in connection with this survey that has so enlarged our real knowledge of the zoology of this section. Thus, from December 1860 until April 1862, and a considerable portion of 1863 he was collecting in the Colorado Valley near Fort Mojave. This included the vicinity of San Diego, San Pedro, Santa Barbara and the islands of the coast. In 1864 he explored a portion of the coast from Bolinas Bay to Santa Cruz, and during a portion of this time (1862) was assisted by Dr. Edward Palmer. During this period he did a large amount of gratuitous work, in the way of elaborating the material in various branches of the zoology of the Pacific Coast. In 1865 he prepared his series of reports on the higher classes of animals. We hope that this preliminary sketch will call attention to Dr. Cooper's ornithological work, and while it is not intended to be critical, we have attempted to do him justice as an original observer and as an author. In a subsequent issue of the BULLETIN we will give a detailed catalogue of his ornithological publications expressly prepared for students who wish to examine them.

[REDACTED]

IN MEMORIAM:

Dr. James G. Cooper.

OUR beloved honorary member and distinguished naturalist, Dr. James G. Cooper has passed away, and with him we lose a man of sterling worth and lofty character, a man who has gained an enviable reputation in his chosen subject of Natural History, and who has left many and valuable works in the field of Ornithology.

It seems but a few years since I first met this slender gentleman in the small country postoffice which he held in connection with the only drug store in Hayward. That was in 1877. Three years ago last March he sat among us, for the last time in public, for the study of his favorite work, ornithology. Tho not of a strong constitution, he has been the last to answer the final call of the Creator, of that original group of naturalists gathered around the side of Prof. Baird in the early days of the Smithsonian Institution.

Dr. Cooper's life was one of strong work, earnestly done, as one who clearly saw the facts of natural science, and who fully appreciated the bearing of one branch of zoology upon another, and upon allied subjects. This will be noted in his early study of forests and distribution, and many are the younger zoologists who will think of him in future years when they consult

his work on the coast faunal ranges. He was a man who could lead you in paths of Nature to the haunts of birds, to the lurking places of shells, or to hidden fossils, and could name for you the rocks, trees and plants of the mountains, hills and plains.

Dr. Cooper is best known to us by his works on conchology and ornithology. Of the former there are forty-three separate papers and of the latter twenty-six. His most important work was "Land Birds" in the Geological Survey of California, and usually known as "Ornithology of California." This book was edited by Prof. Baird and includes most of the land birds west of the Rocky Mts.

His was a quiet unassuming life, passed amid the simple surroundings of his home. He was a tall, spare man of soldiery bearing, with a dark beard well silvered, clear blue eyes, delicate hands, a voice slow and not given to a ready flow of language. But when touched on his favorite topic, the man was forgotten, and he impressed you as one of the true worshippers at Nature's shrine—a noble man of lasting worth. At times he was humorous, when stirred by the reminder of some early days of exploring among the mountains and fields. Dr. Cooper was a great lover of forests, and could never bear to see a tree cut down, or even have it used for fuel in his home. There stands beside his home today a tall California laurel, which was transplanted from a near ravine as a little sapling, and which now overtops

his home. It was early in life that the naturalists' traits manifested themselves, as he says in his autobiographical summary. "I was noted for planting tooth-picks to raise geese, and for hugging goslings to death, a budding of ornithological tastes. This occurred in 1837 and continued, say, to 1840. I went to a country school in summer, walked a mile over hills and bad roads, taking side paths thru the fields to hunt bird nests, shells and reptiles, which I preserved till some naturalist captured the specimens for little or nothing. The most noted of these captures was a living copper-head snake which my sister Mary and I found while crossing a newly cleared field, and which finally went alive to England. I had many hunts for quadrupeds and preserved some up to the size of gray and fox squirrels, besides keeping red and flying squirrels, a racoon, opossum, and other animals as pets, which attracted much interest among visitors. I had a boy's mania for hunting, and altho I could only get small animals and birds, I spent many a day in shooting, no doubt with impoverishment to physical health. I would wade thru snow knee-deep for miles with poor results as to game, but thought if I ever went into a wild country the hunter's life would be my choice. Why man could not live happy on the natural products of the forests and streams was a problem I expected to solve in the future. About this time Tanner's 'Thirty Years Among the Indians of Canada' showed me much of the difficulties in the way

of such a mode of existence."

In this we have a little retrospect into the early life of Dr. Cooper from his own pen. The tendencies thus early manifested were fostered by his father, to whom Dr. Cooper owed his preparation for his later work in life, and it was at the home of William Cooper that such men as Samuel L. Mitchell, M. D., Nathaniel Paulding, poet, Dr. John Torrey, the botanist, Prof. Eaton, and Lucien Bonaparte were wont to meet. It is not difficult to see how these men may all have exerted a profound influence on the mind of the young naturalist. At the age of twenty-eight, Dr. Cooper became a member of the New York Lyceum, now the New York Academy of Sciences, his father, at the age of nineteen, having been one of the founders. Dr. Cooper was one of the early members of the California Academy of Sciences, holding for several years the office of vice-president and for some years being curator of the section of palæontology, which he had given much time to build up. His last actual work was the compiling of a Catalog of California Fossils, issued as Bulletin No. 4 by the California State Mining Bureau, Sept. 1894, Parts II, III, IV and V.

Dr. Cooper is the last of that circle of distinguished naturalists, who had been the foremost zoologists and botanists in his early days. Such men as Asa Gray, Baird, LeConte, Hayden, Meek, George Gibbs, Torrey, Warren and Dr. Suckley were his colaborers. To the

memory of Dr. Cooper we can have no better monument than the valuable researches which he carried on for over forty years of his life, consisting of some seventy-five papers on the birds, shells, fossils, geology, forests and flora of the Pacific Coast.

W. OTTO EMERSON,
Hayward, California.



A Letter from Dr. Coues to Dr. Cooper.

THE following letter, contributed by Mr. Emerson, is of interest just now, in connection with the life of Dr. Cooper. We have here a glimpse into the past, showing us at once the friendship existing between Dr. Cooper and Dr. Coues, and the esteem in which Cassin was held by his fellow workers.

Fort Macon, North Carolina, February 21, 1869.

MY DEAR COOPER:

I have not heard from you for so long, that I don't recollect which one of us owes the other a letter; but that's no great matter after all! I have received the two copies of your paper so kindly sent, and read them with unusual interest and profit. You quote me, I notice, very extensively. I have not the papers by me or I should like to make a few notes that struck me on first perusal. I consider the paper a highly interesting and very valuable one. That one now printing in the "Naturalist" will also be of great practical service. Please let me have a copy of all that you write. I understand that your large work will be out before long. I think I have seen it announced, in print, in some publisher's prospectus, but can not recall definitely. I look for it with eager interest. I have sent you, I think, all the papers that I have published since my "Pro-

drome," directing them for want of more definite address to care of the S. F. Nat. Hist. Soc. Have you received them? A short one, "List of Birds Collected in Arizona by Dr. Ed. Palmer," bears directly upon your work. He got on the Gila desert 3 species not previously attributed to the Territory; and several kinds of eggs not before known to the ornithologists. My large work still remains in MSS; but is about ready for the press. I have about 2500 pages of MSS. Yours and mine together will, I think, about use up the subject. Yours has the great desideratum of mine—illustrations. I know these will be GREAT; have seen the proofs of a great many of them, and they are first rate. Best things out since Cassin's and the Pac. R. R. Reports!! I deeply regret that my book can boast of nothing of the sort; but I have no means of procuring any such desirable embellishments.

After my long stay at Columbia, over 2½ years, I am at length moved. Fort Macon is on one of the long islands off the coast of North Carolina just opposite Beaufort. I did comparatively little at Columbia in the bird line, my position being a very onerous one as regarding official duties. I only managed to collect data for a Synopsis of the Birds of the State (a copy of which I sent you). Although the birds are of course well known in the general run, I thought that a new carefully prepared list might find an acceptable place in our chronicles. I have as much time here at my dis-

posal as you seem to have at drum barracks, and I hope to put it to good account in the line of ornithological studies. I have never before lived on the South Atlantic seaboard.

Of course you heard the sad, sad news that John Cassin's labors are ended. The loss to Science none of us can measure; nor can those privileged to call him friend adequately express the depth of that bereavement. And many as are our American ornithologists—high as some stand in American ornithology—there is none left in all our land who can lift up the mantle that has fallen from his shoulders. His good work is accomplished, and he has gone to reap the rich reward of a life nobly spent in the survey of Nature's beauties, in drinking from the perennial fountain of Nature's truths. Since Audubon passed away from the scene of his usefulness, death has struck no such cruel blow to our beloved science. As Dr. Brewer has said to me, "which one of our younger ornithologists will undertake to stand, after thirty-five years of training, where Cassin stood at his death?" The all-worthy time-honored quartette has been rudely broken. Now only a triangle, Lawrence, Brewer and Baird, remains of the last generation of American ornithologists. Who shall lead opinion when they too are gathered to their fathers? A higher trust than we perhaps appreciate, is laid upon the few of us of this later day who pay devotion to the beautiful study of ornithology. It is

no less than the keeping bright and untarnished, and transmitting to our successors, the name and fame of the science that has absorbed such minds as those of Wilson, Nuttall, Audubon, Bonaparte and Cassin. May we prove worthy servitors, guarding with jealous care our trust, watchful that the vestal fires shall ever burn at the shrine where we worship with a clear and steady flame.

Ever yours, faithfully,
ELLIOTT COUES.

DR. J. G. COOPER,
Acad. Nat. Sciences,
San Francisco, Cal.

The Ornithological Writings of Dr. J. G. Cooper.

BY JOSEPH GRINNELL.

IN the present paper I have listed all the ornithological writings of the late Dr. Cooper known to me. These number twenty-six. It will be noted that the majority were printed between 1860 and 1880. While the number of Cooper's titles was not great, his articles thus appeared at a time when much less was written on birds than now, and when much of the subject-matter we might now regard as commonplace was new information altogether. As all but two of his publications pertained at least in part to the birds of California we of the Cooper Ornithological Club owe much to Dr. Cooper as being a pioneer in our line of study. Perhaps his best known work is his "Ornithology of California" which is a desideratum of every working bird-student. Aside from his signed articles, Cooper furnished material, in the way of specimens and manuscript notes, which was used by Baird in 1858 and 1864, and especially by Baird, Brewer and Ridgway in their colossal "History of North American Birds," 1874 and 1884.

Birds which have been named in honor of Dr. J. G. Cooper are *Buteo cooperi* CASSIN (status now in doubt), *Podiceps cooperi* LAWRENCE (= *Colymbus holboëlli*), *Pyrrhuloxia cooperi* RIDGWAY (= *Piranga rubra cooperi*) and *Melospiza fasciata cooperi* RIDGWAY.

1860. Pac. R. R. Rep. XII. Book II. 1860 —Part III. Route near the forty-seventh and forty-ninth parallels, explored by I. I. Stevens, Governor of Washington Territory in 1853-55. Zoological Report. — No. 3. Report upon the Birds collected on the Survey. Chapter I. Land Birds, by J. G. Cooper, M. D. Chapter II. Water Birds, by Dr. G. Suckley, U. S. A. pp. 140-291, 8 Plt. (This was Cooper's first published article on ornithology and pertains chiefly to the birds noted during the survey of Oregon and Washington. There are also a few references to Californian species, of particular note being his account of the capture of the unique type of *Buteo cooperi* Cassin, at Mountain View, Santa Clara County. Although Cooper and Suckley present separate authorship for the "Land Birds" and "Water Birds," respectively, each evidently contributed written accounts to both chapters. Cooper's initial as a rule follows the most extended and detailed field-notes.)

1861. New Californian Animals. —Proc. Cal. Ac. Nat. Sc. II, July 1861, pp. 118-123. (Cooper here definitely records from the southeastern part of the State *Panyptila melanoleuca* [= *Aeronautes melanoleucus*], *Chordeiles texensis*, *Tyrannus vociferans*, *Vireo belli* [= *V. pusillus*], *Harporhynchus* [= *Toxostoma*] *lecontei*, *Icterus cucullatus* [*nelsoni*], and *Hydrochelidon plumbea* [= *H. surinamensis*] as well as others from Fort Mojave. He also describes two new species from Fort Mojave,

Athene whitneyi [= *Micropallas whitneyi*] and *Helminthophaga luciæ*).

1865. On a new Cormorant from the Farallone Islands, California. —Proc. Ac. Nat. Sc. Phil., January 1865, pp. 5-6. (Description of *Graculus Bairdii* [= *Phalacrocorax pelagicus resplendens*.])

1868. Some Recent Additions to the Fauna of California. —Proc. Cal. Ac. Sc. IV, November 1868, pp. 3-13. (Mention, with occasional critical remarks, of forty-five species, some of them for the first time recorded from the State).

1869. The Fauna of Montana Territory. —Am. Naturalist, 1869; II, January, pp. 596-600; III, March, pp. 31-35; April, 73-84. Corrections, June, p. 224. (More or less extended notes on about 110 species of birds).

1869. The Naturalist in California. —Am. Naturalist III; June, pp. 182-189; November, pp. 470-481.

(Field-notes on many birds observed on the Los Angeles Plains, at Cajon Pass, along the Mojave River, and in the vicinity of Fort Mojave, which latter place, however, is on the Arizona side of the Colorado River).

1869. Notes on the Fauna of the Upper Missouri. —Am. Naturalist III, August 1869, pp. 294-299. (Includes numerous ornithological notes).

1870. Geological Survey of California. | J. D. Whitney, State Geologist. | — | Ornithology. | Volume I. | Land Birds. | Edited by S. F. Baird, | from the Manuscript and Notes of | J. G. Cooper. | — | Published by authority of the Legislature. | 1870. pp. i-xi, 1-592; with a great many figures. (This, Cooper's greatest work, includes the birds of all the region west of the Rocky Mountains. Most of the text is in the nature of biographical accounts, and included most of what was known at the time of publication. The technical parts were prepared by Baird).

1870. The Fauna of California and its Geographical Distribution. —Proc. Cal. Ac. Sc. IV, February 1870, pp. 61-81. (Contains separate lists of birds for different localities, including those observed on several of the Santa Barbara Islands).

1871. Monterey in the Dry Season. —Am. Naturalist IV, February 1871, pp. 756-758. (Running account of thirty species of birds observed in the vicinity of Monterey.)

1874. Animal Life of the Cuyamaca Mountains.—Am. Naturalist VIII, January 1874, pp. 14-18. (Brief mention of 84 species of birds observed in the vicinity of the Cuyamaca Mountains, San Diego County).

1874. "Verbal Remarks." —Proc. Cal. Ac. Sc. V, December 1874, pp. 414-415. (Specimens of *Uria lomvia*,

which later proved to have been the young of *Uria californica*, and *Stercorarius parasiticus* from the coast of California.)

1875. Notes on California Thrushes.—Am. Naturalist IX, February 1875, pp. 114-116. (Corrections in regard to the "Ornithology of California:" *Turdus ustulatus* and "*T. nanus*.")

1875. New Facts relating to Californian Ornithology—No. 1. —Proc. Cal. Ac. Sc. VI, December 1875, pp. 189-202. (Extended critical and biographical notes on a number of the less known species.

1876. Early nesting of the Anna Hummingbird.—Am. Naturalist X, January 1876, pp. 48-50. (In the vicinity of Haywards).

1876. Californian Garden Birds. —Am. Naturalist X, February 1876, pp. 90-96. (Running account of about forty species nesting in the neighborhood of Haywards. Incidentally Cooper names and characterizes on page 91 a western race of the Tree Swallow, "*Hirundo bicolor* var. *vespertina*." It is interesting to note that this was the only "variety" or subspecies Cooper ever named, for as shown by most of his writings he did not lean strongly toward trinomialism. In spite of the fact that *vespertina* was ignored by Cooper's contemporaries, and has until now remained almost completely buried, there seems to be a distinguishable

western race of the Tree Swallow, and this should be known as *Tachycineta bicolor vespertina* (Cooper).

1876. Nesting Habits of the Californian House Wren (*Troglodytes aedon* var. *parkmanni*). —Bull. Nutt. Orn. Club I, November 1876, pp. 79-81.

1877. On Seventy-five Doubtful West-coast Birds. —Bull. Nutt. Orn. Club II, October 1877, pp. 88-97. (Remarks concerning numerous species attributed to California by early writers, but the occurrence of which is now doubtful).

1878. Californian Prairie Chickens. —Bull. Nutt. Orn. Club III, April 1878, p. 96. (On the status in California of *Tetrao columbianus* [= *Pediæcetes phasainellus columbianus*].)

1880. On the Migration and Nesting Habits of West-coast Birds. Proc. U. S. N. M. II, January 1880, pp. 241-251. (A list of 73 species, with dates of migration and nesting at several points in California).

1886. The 'Water Birds of North America'—A Few Corrections. —Auk III, January 1886, pp. 124-126. (Relating to the notes on California birds incorporated from Cooper's writings into Baird, Brewer and Ridgway's work).

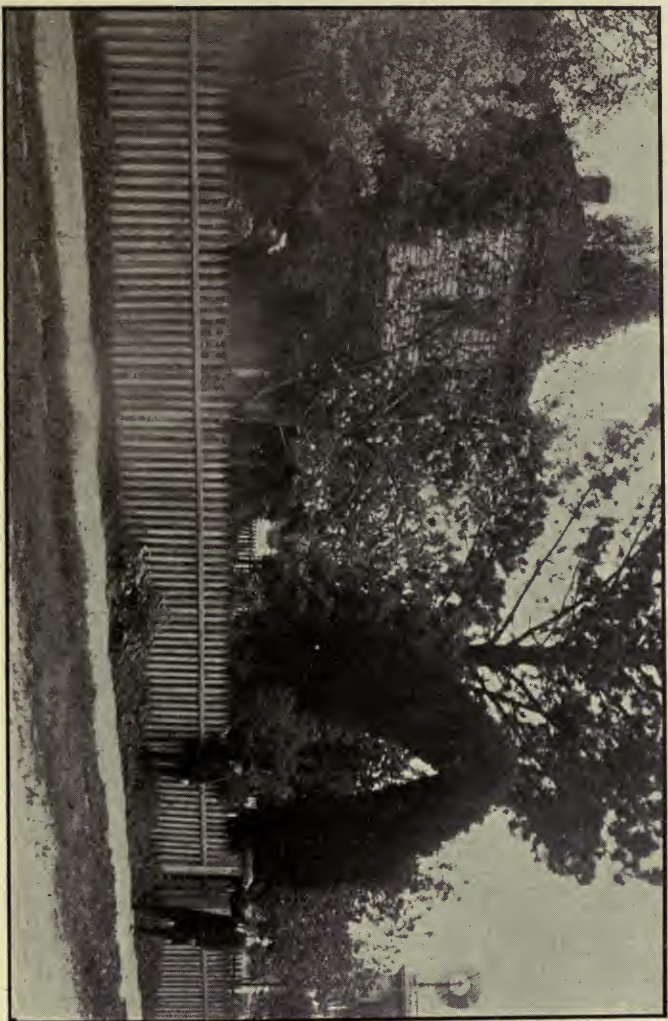
1886. The 'Water Birds of North America'—Explanations. —Auk III, July 1886, pp. 401-402.

1887. Additions to the Birds of Ventura County, California. —Auk IV, April 1887, pp. 85-94. (Extended notes on 29 species, with mention of many more).

1890. Note on Pacific Coast Birds. —Auk VII, April 1890, pp. 214-216. (Explanations in regard to the "Ornithology of California.")

1890. A Doomed Bird. —Zoe I, October 1890, pp. 248-249. (The California Vulture).

1891. Unusual Nesting Place of *Empidonax hammondi*. —Zoe II, July 1891, pp. 104-107. (Breeding at Haywards).



HOME OF THE LATE DR. J. G. COOPER.

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